

**SELECTION OF NEUROSTIMULATOR PARAMETER  
CONFIGURATIONS USING DECISION TREES**

**ABSTRACT**

A selection of parameter configurations for a neurostimulator using decision trees may be employed by a programming device to allow a clinician or other user to select parameter configurations, and then program an implantable neurostimulator to deliver therapy using the selected parameter configurations. The programming device executes a parameter configuration search algorithm to guide the clinician in selection of parameter configurations. The search algorithm relies on a decision tree to identify optimum parameter configurations. A decision tree is useful in classifying observations in a data set based upon one or more attributes or fields within the data. The data set includes parameter configurations matched with observed ratings of efficacy on patients of a similar indication. The learned attribute, on which classification occurs, will be the optimum parameter configuration for a set of rated configurations used to produce the classification. The decision trees may be especially useful in identifying electrode configurations.